



**HARRY HERSBACH  
TOOLS BV**


















*specialist in machining tools*

# DRILL LINE



# DRILL LINE







● First choice    ○ Suitable

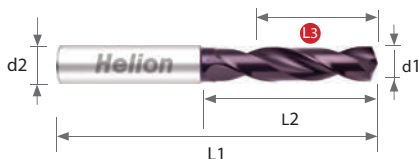
Reference	Picture	Description	Page	Ø Range (mm)	Front angle	LxD	Diameter Tolerance	DIN	Coating
60.6003		DRILL 3XD	102	3,0 - 20,0	140°	3xD	m7	6537K	DRILLANT
60.6005		DRILL 5XD	104	3,0 - 20,0	140°	5xD	m7	6537L	DRILLANT
60.6803		DRILL 3XD INTERNAL COOLANT	106	3,0 - 20,0	140°	3xD	m7	6537K	DRILLANT
60.6805		DRILL 5XD INTERNAL COOLANT	108	3,0 - 20,0	140°	5xD	m7	6537L	DRILLANT
60.6808		DRILL 8XD INTERNAL COOLANT	110	3,0 - 20,0	140°	8xD	m7	-	DRILLANT
60.6812		DRILL 12XD INTERNAL COOLANT	112	3,0 - 20,0	135°	12xD	h7	-	DRILLANT
62.0010		SOLID CARBIDE TAP DESTROYER	114	2,5 - 17,5 M3 - M20	-	-	-	-	TiN-Up
62.6000		SPECIAL DRILL 50-68HFC	115	2,60 - 14,1 M3-M16	120°	3xD	m7	6537K	TiAN
67.6885		SOLID CARBIDE DRILLREAMER H7	117	5,98 - 20,0	140°	5xD	H7	-	TiAN
11.1360		HSSCo DRILL DIN 1897	118	1,0 - 14,0	118°	3xD	h8	1897	TiN U-NEWDRILL
11.2360		HSSCo DRILL DIN 338	120	1,0 - 14,0	118°	5xD	h8	338	TiN U-NEWDRILL
10.2000		HSS DRILL DIN 338	122	1,0 - 16,0	118°	5xD	h8	338	BLACK HVA
12.2105		HSS DRILL DIN 338	124	1,0 - 13,0	118°	5xD	h8	338	TiN-Up
10.5690		HSSCo NC 90° SPOTTING DRILL	126	3,0 - 20,0	90°	-	h6	-	TiAN
10.5612		HSSCo NC 120° SPOTTING DRILL	127	3,0 - 20,0	120°	-	h6	-	TiAN
10.5510		HSS CENTER DRILL DIN 333A	128	0,5 - 12,5	118°	-	-	333A	Bright
10.5514		HSS CENTER DRILL DIN 333A XTRA LONG	129	2,0 - 3,15	118°	-	-	333A	Bright

Internal coolant	Shank design	600N/mm <sup>2</sup> <1200N/mm <sup>2</sup>	HRC	INOX Stainless Steel	GG/G Cast Iron	TITAN Exotic alloys	NE Non Ferrous	UNI Universal application	HSC High Speed Cutting	HHC High Hard Cutting	HPC High Performance Cutting
	HA	●	55	○	●	○	○	●	●		●
	HA	●	55	○	●	○	○	●	●		●
●	HA	●	55	○	●	○	○	●	●		●
●	HA	●	55	○	●	○	○	●	●		●
●	HA	●	55	○	●	○	○	●	●		●
●	HA	●	55	○	●	○	○	●	●		●
	HA	●	60-65					●	●	●	●
	HA	○	50-68		○					●	●
●	HA	●	55	○	●			●			●
	HA	●		●	●	○	●	○	●		●
	HA	●		●	●	○	●	○			
	HA	●		●	●		●	○			
	HA	●		●	●	○	●	○			
	HA	●		○	●	○	●	○			
	HA	●		○	●	○	●	○			
	HB	●		●	●	○	●	●			●
	HB	●		●	●	○	●	●			●
	HA	●		○	●	○	●	○			
	HA	●		○	●	○	●	○			

## 60.6003

### SOLID CARBIDE DRILL 3xD

-  Broca metal duro 3xD
-  Foret en Carbure Monobloc 3xD
-  Punta in metallo duro 3xD
-  Цельные твердосплавные сверла 3xD
-  Kati karbür matkap 3XD
-  合金钻头3XD



**m7**  
tolerance

**600**  
1200  
N/mm<sup>2</sup>

**55**  
HRC

**INOX**

**GG(G)**

**PLASTIC**


**GFK**  
CFK


**ALU**  
NE

**TITAN**  
INCONEL

**Drillant**


**UNI**



 140°

**3xD**

**HA**

 p-130

Cod.	d1	d2	L1	L2	L3
6060030300	3,00	6	62	20	14
6060030310	3,10	6	62	20	14
6060030320	3,20	6	62	20	14
6060030330	3,30	6	62	20	14
6060030340	3,40	6	62	20	14
6060030350	3,50	6	62	20	14
6060030360	3,60	6	62	20	14
6060030370	3,70	6	62	20	14
6060030380	3,80	6	66	24	17
6060030390	3,90	6	66	24	17
6060030400	4,00	6	66	24	17
6060030410	4,10	6	66	24	17
6060030420	4,20	6	66	24	17
6060030430	4,30	6	66	24	17
6060030440	4,40	6	66	24	17
6060030450	4,50	6	66	24	17

Cod.	d1	d2	L1	L2	L3
6060030460	4,60	6	66	24	17
6060030465	4,65	6	66	24	17
6060030470	4,70	6	66	24	17
6060030480	4,80	6	66	28	20
6060030490	4,90	6	66	28	20
6060030500	5,00	6	66	28	20
6060030510	5,10	6	66	28	20
6060030520	5,20	6	66	28	20
6060030530	5,30	6	66	28	20
6060030540	5,40	6	66	28	20
6060030550	5,50	6	66	28	20
6060030555	5,55	6	66	28	20
6060030560	5,60	6	66	28	20
6060030570	5,70	6	66	28	20
6060030580	5,80	6	66	28	20
6060030590	5,90	6	66	28	20

Cod.	d1	d2	L1	L2	L3
6060030600	6,00	6	66	28	20
6060030610	6,10	8	79	34	25
6060030620	6,20	8	79	34	25
6060030630	6,30	8	79	34	25
6060030640	6,40	8	79	34	25
6060030650	6,50	8	79	34	25
6060030660	6,60	8	79	34	25
6060030670	6,70	8	79	34	25
6060030680	6,80	8	79	34	25
6060030690	6,90	8	79	34	25
6060030700	7,00	8	79	34	25
6060030710	7,10	8	79	41	31
6060030720	7,20	8	79	41	31
6060030730	7,30	8	79	41	31
6060030740	7,40	8	79	41	31
6060030750	7,50	8	79	41	31
6060030760	7,60	8	79	41	31
6060030770	7,70	8	79	41	31
6060030780	7,80	8	79	41	31
6060030790	7,90	8	79	41	31
6060030800	8,00	8	79	41	31
6060030810	8,10	10	89	47	36
6060030820	8,20	10	89	47	36
6060030830	8,30	10	89	47	36
6060030840	8,40	10	89	47	36
6060030850	8,50	10	89	47	36
6060030860	8,60	10	89	47	36
6060030870	8,70	10	89	47	36
6060030880	8,80	10	89	47	36
6060030890	8,90	10	89	47	36
6060030900	9,00	10	89	47	36
6060030910	9,10	10	89	47	36
6060030920	9,20	10	89	47	36
6060030930	9,30	10	89	47	36
6060030940	9,40	10	89	47	36
6060030950	9,50	10	89	47	36
6060030960	9,60	10	89	47	36
6060030970	9,70	10	89	47	36
6060030980	9,80	10	89	47	36
6060030990	9,90	10	89	47	36
6060031000	10,00	10	89	47	36
6060031010	10,10	12	102	55	42
6060031020	10,20	12	102	55	42
6060031030	10,30	12	102	55	42
6060031040	10,40	12	102	55	42
6060031050	10,50	12	102	55	42
6060031060	10,60	12	102	55	42
6060031070	10,70	12	102	55	42
6060031080	10,80	12	102	55	42
6060031090	10,90	12	102	55	42
6060031100	11,00	12	102	55	42
6060031110	11,10	12	102	55	42
6060031120	11,20	12	102	55	42
6060031130	11,30	12	102	55	42

Cod.	d1	d2	L1	L2	L3
6060031140	11,40	12	102	55	42
6060031150	11,50	12	102	55	42
6060031160	11,60	12	102	55	42
6060031170	11,70	12	102	55	42
6060031180	11,80	12	102	55	42
6060031190	11,90	12	102	55	42
6060031200	12,00	12	102	55	42
6060031210	12,10	14	107	60	46
6060031220	12,20	14	107	60	46
6060031230	12,30	14	107	60	46
6060031240	12,40	14	107	60	46
6060031250	12,50	14	107	60	46
6060031260	12,60	14	107	60	46
6060031270	12,70	14	107	60	46
6060031280	12,80	14	107	60	46
6060031290	12,90	14	107	60	46
6060031300	13,00	14	107	60	46
6060031310	13,10	14	107	60	46
6060031320	13,20	14	107	60	46
6060031330	13,30	14	107	60	46
6060031340	13,40	14	107	60	46
6060031350	13,50	14	107	60	46
6060031360	13,60	14	107	60	46
6060031370	13,70	14	107	60	46
6060031380	13,80	14	107	60	46
6060031390	13,90	14	107	60	46
6060031400	14,00	14	107	60	46
6060031410	14,10	16	115	65	50
6060031420	14,20	16	115	65	50
6060031430	14,30	16	115	65	50
6060031440	14,40	16	115	65	50
6060031450	14,50	16	115	65	50
6060031460	14,60	16	115	65	50
6060031470	14,70	16	115	65	50
6060031480	14,80	16	115	65	50
6060031490	14,90	16	115	65	50
6060031500	15,00	16	115	65	50
6060031510	15,10	16	115	65	50
6060031520	15,20	16	115	65	50
6060031530	15,30	16	115	65	50
6060031540	15,40	16	115	65	50
6060031550	15,50	16	115	65	50
6060031560	15,60	16	115	65	50
6060031570	15,70	16	115	65	50
6060031580	15,80	16	115	65	50
6060031590	15,90	16	115	65	50
6060031600	16,00	16	115	65	50
6060031650	16,50	18	123	73	56
6060031700	17,00	18	123	73	56
6060031750	17,50	18	123	73	56
6060031800	18,00	18	123	73	56
6060031850	18,50	20	131	79	61
6060031900	19,00	20	131	79	61
6060031950	19,50	20	131	79	61
6060032000	20,00	20	131	79	61

DRILL  
LINE









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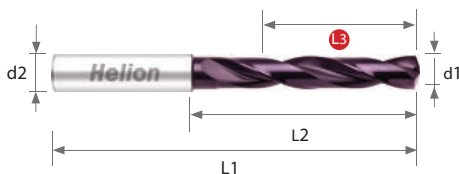


## 60.6005

### SOLID CARBIDE DRILL 5xD



-  Broca metal duro 5xD
-  Foret en Carbure Monobloc 5xD
-  Punta in metallo duro 5xD
-  Цельные твердосплавные сверла 5xD
-  Kati karbūr matkap 5xD
-  合金钻头5xD



m7  
tolerance

600  
1200  
N/mm<sup>2</sup>

55  
HRC

INOX

GG(G)

PLASTIC


GFK  
CFK


ALU  
NE

TITAN  
INCONEL


Drillant


UNI



 140°

5xD

 HA

 p-130

Cod.	d1	d2	L1	L2	L3
6060050300	3,00	6	66	28	20
6060050310	3,10	6	66	28	20
6060050320	3,20	6	66	28	20
6060050330	3,30	6	66	28	20
6060050340	3,40	6	66	28	20
6060050350	3,50	6	66	28	20
6060050360	3,60	6	66	28	20
6060050370	3,70	6	66	28	20
6060050380	3,80	6	74	36	27
6060050390	3,90	6	74	36	27
6060050400	4,00	6	74	36	27
6060050410	4,10	6	74	36	27
6060050420	4,20	6	74	36	27
6060050430	4,30	6	74	36	27

Cod.	d1	d2	L1	L2	L3
6060050440	4,40	6	74	36	27
6060050450	4,50	6	74	36	27
6060050460	4,60	6	74	36	27
6060050465	4,65	6	74	36	27
6060050470	4,70	6	74	36	27
6060050480	4,80	6	82	44	33
6060050490	4,90	6	82	44	33
6060050500	5,00	6	82	44	33
6060050510	5,10	6	82	44	33
6060050520	5,20	6	82	44	33
6060050530	5,30	6	82	44	33
6060050540	5,40	6	82	44	33
6060050550	5,50	6	82	44	33
6060050555	5,55	6	82	44	33

Cod.	d1	d2	L1	L2	L3
6060050560	5,60	6	82	44	33
6060050570	5,70	6	82	44	33
6060050580	5,80	6	82	44	33
6060050590	5,90	6	82	44	33
6060050600	6,00	6	82	44	33
6060050610	6,10	8	91	53	40
6060050620	6,20	8	91	53	40
6060050630	6,30	8	91	53	40
6060050640	6,40	8	91	53	40
6060050650	6,50	8	91	53	40
6060050660	6,60	8	91	53	40
6060050670	6,70	8	91	53	40
6060050680	6,80	8	91	53	40
6060050690	6,90	8	91	53	40
6060050700	7,00	8	91	53	40
6060050710	7,10	8	91	53	40
6060050720	7,20	8	91	53	40
6060050730	7,30	8	91	53	40
6060050740	7,40	8	91	53	40
6060050750	7,50	8	91	53	40
6060050760	7,60	8	91	53	40
6060050770	7,70	8	91	53	40
6060050780	7,80	8	91	53	40
6060050790	7,90	8	91	53	40
6060050800	8,00	8	91	53	40
6060050810	8,10	10	103	61	47
6060050820	8,20	10	103	61	47
6060050830	8,30	10	103	61	47
6060050840	8,40	10	103	61	47
6060050850	8,50	10	103	61	47
6060050860	8,60	10	103	61	47
6060050870	8,70	10	103	61	47
6060050880	8,80	10	103	61	47
6060050890	8,90	10	103	61	47
6060050900	9,00	10	103	61	47
6060050910	9,10	10	103	61	47
6060050920	9,20	10	103	61	47
6060050930	9,30	10	103	61	47
6060050940	9,40	10	103	61	47
6060050950	9,50	10	103	61	47
6060050960	9,60	10	103	61	47
6060050970	9,70	10	103	61	47
6060050980	9,80	10	103	61	47
6060050990	9,90	10	103	61	47
6060051000	10,00	10	103	61	47
6060051010	10,10	12	118	71	55
6060051020	10,20	12	118	71	55
6060051030	10,30	12	118	71	55
6060051040	10,40	12	118	71	55







Cod.	d1	d2	L1	L2	L3
6060051050	10,50	12	118	71	55
6060051060	10,60	12	118	71	55
6060051070	10,70	12	118	71	55
6060051080	10,80	12	118	71	55
6060051090	10,90	12	118	71	55
6060051100	11,00	12	118	71	55
6060051110	11,10	12	118	71	55
6060051120	11,20	12	118	71	55
6060051130	11,30	12	118	71	55
6060051140	11,40	12	118	71	55
6060051150	11,50	12	118	71	55
6060051160	11,60	12	118	71	55
6060051170	11,70	12	118	71	55
6060051180	11,80	12	118	71	55
6060051190	11,90	12	118	71	55
6060051200	12,00	12	118	71	55
6060051210	12,10	14	124	77	60
6060051220	12,20	14	124	77	60
6060051240	12,40	14	124	77	60
6060051250	12,50	14	124	77	60
6060051260	12,60	14	124	77	60
6060051270	12,70	14	124	77	60
6060051300	13,00	14	124	77	60
6060051320	13,20	14	124	77	60
6060051330	13,30	14	124	77	60
6060051350	13,50	14	124	77	60
6060051370	13,70	14	124	77	60
6060051380	13,80	14	124	77	60
6060051400	14,00	14	124	77	60
6060051410	14,10	16	133	83	64
6060051420	14,20	16	133	83	64
6060051430	14,30	16	133	83	64
6060051440	14,40	16	133	83	64
6060051450	14,50	16	133	83	64
6060051470	14,70	16	133	83	64
6060051500	15,00	16	133	83	64
6060051510	15,10	16	133	83	64
6060051520	15,20	16	133	83	64
6060051550	15,50	16	133	83	64
6060051560	15,60	16	133	83	64
6060051570	15,70	16	133	83	64
6060051580	15,80	16	133	83	64
6060051600	16,00	16	133	83	64
6060051650	16,50	18	143	93	72
6060051700	17,00	18	143	93	72
6060051750	17,50	18	143	93	72
6060051800	18,00	18	143	93	72
6060051850	18,50	20	153	101	79
6060051900	19,00	20	153	101	79
6060051950	19,50	20	153	101	79
6060052000	20,00	20	153	101	79

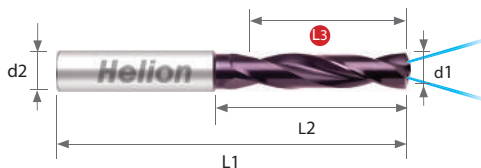


## 60.6803

### SOLID CARBIDE DRILL 3XD INTERNAL COOLANT



-  Broca metal duro 3xD refrigeración interior
-  Foret en Carbone Monobloc 3xD Avec Refroidissement Interieur
-  Punta in metallo duro 3xD lubrificazione interna
-  Цельные твердосплавные сверла 3xD с внутренним подводом сож
-  Kati karbür matkap 3xD iç soğutma suyu
-  合金钻头3XD 内冷





m7  
tolerance



600  
1200  
N/mm<sup>2</sup>



55  
HRC



INOX



GG(G)



ALU  
NE



TITAN  
INCONEL



Drillant



UNI



3xD  
140°



HA





 p-130

Cod.	d1	d2	L1	L2	L3
6068030300	3,00	6	62	20	14
6068030310	3,10	6	62	20	14
6068030320	3,20	6	62	20	14
6068030330	3,30	6	62	20	14
6068030340	3,40	6	62	20	14
6068030350	3,50	6	62	20	14
6068030360	3,60	6	62	20	14
6068030370	3,70	6	62	20	14
6068030380	3,80	6	66	24	17
6068030390	3,90	6	66	24	17
6068030400	4,00	6	66	24	17
6068030410	4,10	6	66	24	17
6068030420	4,20	6	66	24	17
6068030430	4,30	6	66	24	17
6068030440	4,40	6	66	24	17
6068030450	4,50	6	66	24	17
6068030460	4,60	6	66	24	17
6068030465	4,65	6	66	24	17

Cod.	d1	d2	L1	L2	L3
6068030470	4,70	6	66	24	17
6068030480	4,80	6	66	28	20
6068030490	4,90	6	66	28	20
6068030500	5,00	6	66	28	20
6068030510	5,10	6	66	28	20
6068030520	5,20	6	66	28	20
6068030530	5,30	6	66	28	20
6068030540	5,40	6	66	28	20
6068030550	5,50	6	66	28	20
6068030555	5,55	6	66	28	20
6068030560	5,60	6	66	28	20
6068030570	5,70	6	66	28	20
6068030580	5,80	6	66	28	20
6068030590	5,90	6	66	28	20
6068030600	6,00	6	66	28	20
6068030610	6,10	8	79	34	25
6068030620	6,20	8	79	34	25
6068030630	6,30	8	79	34	25









Cod.	d1	d2	L1	L2	L3
6068030640	6,40	8	79	34	25
6068030650	6,50	8	79	34	25
6068030660	6,60	8	79	34	25
6068030670	6,70	8	79	34	25
6068030680	6,80	8	79	34	25
6068030690	6,90	8	79	34	25
6068030700	7,00	8	79	34	25
6068030710	7,10	8	79	41	31
6068030720	7,20	8	79	41	31
6068030730	7,30	8	79	41	31
6068030740	7,40	8	79	41	31
6068030750	7,50	8	79	41	31
6068030760	7,60	8	79	41	31
6068030770	7,70	8	79	41	31
6068030780	7,80	8	79	41	31
6068030790	7,90	8	79	41	31
6068030800	8,00	8	79	41	31
6068030810	8,10	10	89	47	36
6068030820	8,20	10	89	47	36
6068030830	8,30	10	89	47	36
6068030840	8,40	10	89	47	36
6068030850	8,50	10	89	47	36
6068030860	8,60	10	89	47	36
6068030870	8,70	10	89	47	36
6068030880	8,80	10	89	47	36
6068030890	8,90	10	89	47	36
6068030900	9,00	10	89	47	36
6068030910	9,10	10	89	47	36
6068030920	9,20	10	89	47	36
6068030930	9,30	10	89	47	36
6068030940	9,40	10	89	47	36
6068030950	9,50	10	89	47	36
6068030960	9,60	10	89	47	36
6068030970	9,70	10	89	47	36
6068030980	9,80	10	89	47	36
6068030990	9,90	10	89	47	36
6068031000	10,00	10	89	47	36
6068031010	10,10	12	102	55	42
6068031020	10,20	12	102	55	42
6068031030	10,30	12	102	55	42
6068031040	10,40	12	102	55	42
6068031050	10,50	12	102	55	42
6068031060	10,60	12	102	55	42
6068031070	10,70	12	102	55	42
6068031080	10,80	12	102	55	42
6068031090	10,90	12	102	55	42
6068031100	11,00	12	102	55	42
6068031110	11,10	12	102	55	42
6068031120	11,20	12	102	55	42
6068031130	11,30	12	102	55	42
6068031140	11,40	12	102	55	42
6068031150	11,50	12	102	55	42
6068031160	11,60	12	102	55	42
6068031170	11,70	12	102	55	42
6068031180	11,80	12	102	55	42
6068031190	11,90	12	102	55	42
6068031200	12,00	12	102	55	42
6068031210	12,10	14	107	60	46
6068031220	12,20	14	107	60	46

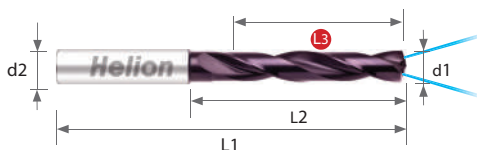
Cod.	d1	d2	L1	L2	L3
6068031230	12,30	14	107	60	46
6068031240	12,40	14	107	60	46
6068031250	12,50	14	107	60	46
6068031260	12,60	14	107	60	46
6068031270	12,70	14	107	60	46
6068031280	12,80	14	107	60	46
6068031290	12,90	14	107	60	46
6068031300	13,00	14	107	60	46
6068031310	13,10	14	107	60	46
6068031320	13,20	14	107	60	46
6068031330	13,30	14	107	60	46
6068031340	13,40	14	107	60	46
6068031350	13,50	14	107	60	46
6068031360	13,60	14	107	60	46
6068031370	13,70	14	107	60	46
6068031380	13,80	14	107	60	46
6068031390	13,90	14	107	60	46
6068031400	14,00	14	107	60	46
6068031410	14,10	16	115	65	50
6068031420	14,20	16	115	65	50
6068031430	14,30	16	115	65	50
6068031440	14,40	16	115	65	50
6068031450	14,50	16	115	65	50
6068031460	14,60	16	115	65	50
6068031470	14,70	16	115	65	50
6068031480	14,80	16	115	65	50
6068031490	14,90	16	115	65	50
6068031500	15,00	16	115	65	50
6068031510	15,10	16	115	65	50
6068031520	15,20	16	115	65	50
6068031530	15,30	16	115	65	50
6068031540	15,40	16	115	65	50
6068031550	15,50	16	115	65	50
6068031560	15,60	16	115	65	50
6068031570	15,70	16	115	65	50
6068031580	15,80	16	115	65	50
6068031590	15,90	16	115	65	50
6068031600	16,00	16	115	65	50
6068031610	16,10	18	115	73	56
6068031620	16,20	18	115	73	56
6068031650	16,50	18	123	73	56
6068031690	16,90	18	123	73	56
6068031700	17,00	18	123	73	56
6068031720	17,20	18	123	73	56
6068031730	17,30	18	123	73	56
6068031740	17,40	18	123	73	56
6068031750	17,50	18	123	73	56
6068031760	17,60	18	123	73	56
6068031770	17,70	18	123	73	56
6068031790	17,90	18	123	73	56
6068031800	18,00	18	123	73	56
6068031830	18,30	20	131	79	61
6068031850	18,50	20	131	79	61
6068031890	18,90	20	131	79	61
6068031900	19,00	20	131	79	61
6068031930	19,30	20	131	79	61
6068031950	19,50	20	131	79	61
6068031990	19,90	20	131	79	61
6068032000	20,00	20	131	79	61

## 60.6805

### SOLID CARBIDE DRILL 5xD INTERNAL COOLANT



-  Broca metal duro 5xD refrigeración interior
-  Foret en Carbure Monobloc 5xD Avec Refroidissement Interieur
-  Punta in metallo duro 5xD lubrificazione interna
-  Цельные твердосплавные сверла 5xD с внутренним подводом сож
-  Kati karbūr matkap 5xD iç soğutma suyu
-  合金钻头5XD 内冷



**m7**  
tolerance

**600**  
1200  
N/mm<sup>2</sup>

**55**  
HRC

**INOX**

**GG(G)**

**ALU**  
**NE**

**TITAN**  
INCONEL

**Drillant**

**UNI**

**5xD**

**HA**

**p-130**

Cod.	d1	d2	L1	L2	L3
6068050300	3,00	6	66	28	20
6068050310	3,10	6	66	28	20
6068050320	3,20	6	66	28	20
6068050330	3,30	6	66	28	20
6068050340	3,40	6	66	28	20
6068050350	3,50	6	66	28	20
6068050360	3,60	6	66	28	20
6068050370	3,70	6	66	28	20
6068050380	3,80	6	74	36	27
6068050390	3,90	6	74	36	27
6068050400	4,00	6	74	36	27
6068050410	4,10	6	74	36	27
6068050420	4,20	6	74	36	27
6068050430	4,30	6	74	36	27
6068050440	4,40	6	74	36	27
6068050450	4,50	6	74	36	27
6068050460	4,60	6	74	36	27

Cod.	d1	d2	L1	L2	L3
6068050465	4,65	6	74	36	27
6068050470	4,70	6	74	36	27
6068050480	4,80	6	82	44	33
6068050490	4,90	6	82	44	33
6068050500	5,00	6	82	44	33
6068050510	5,10	6	82	44	33
6068050520	5,20	6	82	44	33
6068050530	5,30	6	82	44	33
6068050540	5,40	6	82	44	33
6068050550	5,50	6	82	44	33
6068050555	5,55	6	82	44	33
6068050560	5,60	6	82	44	33
6068050570	5,70	6	82	44	33
6068050580	5,80	6	82	44	33
6068050590	5,90	6	82	44	33
6068050600	6,00	6	82	44	33
6068050610	6,10	8	91	53	40







Cod.	d1	d2	L1	L2	L3
6068050620	6,20	8	91	53	40
6068050630	6,30	8	91	53	40
6068050640	6,40	8	91	53	40
6068050650	6,50	8	91	53	40
6068050660	6,60	8	91	53	40
6068050670	6,70	8	91	53	40
6068050680	6,80	8	91	53	40
6068050690	6,90	8	91	53	40
6068050700	7,00	8	91	53	40
6068050710	7,10	8	91	53	40
6068050720	7,20	8	91	53	40
6068050730	7,30	8	91	53	40
6068050740	7,40	8	91	53	40
6068050750	7,50	8	91	53	40
6068050760	7,60	8	91	53	40
6068050770	7,70	8	91	53	40
6068050780	7,80	8	91	53	40
6068050790	7,90	8	91	53	40
6068050800	8,00	8	91	53	40
6068050810	8,10	10	103	61	47
6068050820	8,20	10	103	61	47
6068050830	8,30	10	103	61	47
6068050840	8,40	10	103	61	47
6068050850	8,50	10	103	61	47
6068050860	8,60	10	103	61	47
6068050870	8,70	10	103	61	47
6068050880	8,80	10	103	61	47
6068050890	8,90	10	103	61	47
6068050900	9,00	10	103	61	47
6068050910	9,10	10	103	61	47
6068050920	9,20	10	103	61	47
6068050930	9,30	10	103	61	47
6068050940	9,40	10	103	61	47
6068050950	9,50	10	103	61	47
6068050960	9,60	10	103	61	47
6068050970	9,70	10	103	61	47
6068050980	9,80	10	103	61	47
6068050990	9,90	10	103	61	47
6068051000	10,00	10	103	61	47
6068051010	10,10	12	118	71	55
6068051020	10,20	12	118	71	55
6068051030	10,30	12	118	71	55
6068051040	10,40	12	118	71	55
6068051050	10,50	12	118	71	55
6068051060	10,60	12	118	71	55
6068051070	10,70	12	118	71	55
6068051080	10,80	12	118	71	55
6068051090	10,90	12	118	71	55
6068051100	11,00	12	118	71	55
6068051110	11,10	12	118	71	55
6068051120	11,20	12	118	71	55
6068051130	11,30	12	118	71	55
6068051140	11,40	12	118	71	55
6068051150	11,50	12	118	71	55
6068051160	11,60	12	118	71	55
6068051170	11,70	12	118	71	55

Cod.	d1	d2	L1	L2	L3
6068051180	11,80	12	118	71	55
6068051190	11,90	12	118	71	55
6068051200	12,00	12	118	71	55
6068051210	12,10	14	124	77	60
6068051220	12,20	14	124	77	60
6068051230	12,30	14	124	77	60
6068051240	12,40	14	124	77	60
6068051250	12,50	14	124	77	60
6068051260	12,60	14	124	77	60
6068051270	12,70	14	124	77	60
6068051280	12,80	14	124	77	60
6068051290	12,90	14	124	77	60
6068051300	13,00	14	124	77	60
6068051310	13,10	14	124	77	60
6068051320	13,20	14	124	77	60
6068051330	13,30	14	124	77	60
6068051340	13,40	14	124	77	60
6068051350	13,50	14	124	77	60
6068051360	13,60	14	124	77	60
6068051370	13,70	14	124	77	60
6068051380	13,80	14	124	77	60
6068051390	13,90	14	124	77	60
6068051400	14,00	14	124	77	60
6068051410	14,10	16	133	83	64
6068051420	14,20	16	133	83	64
6068051430	14,30	16	133	83	64
6068051440	14,40	16	133	83	64
6068051450	14,50	16	133	83	64
6068051460	14,60	16	133	83	64
6068051470	14,70	16	133	83	64
6068051480	14,80	16	133	83	64
6068051490	14,90	16	133	83	64
6068051500	15,00	16	133	83	64
6068051510	15,10	16	133	83	64
6068051520	15,20	16	133	83	64
6068051530	15,30	16	133	83	64
6068051540	15,40	16	133	83	64
6068051550	15,50	16	133	83	64
6068051560	15,60	16	133	83	64
6068051570	15,70	16	133	83	64
6068051580	15,80	16	133	83	64
6068051590	15,90	16	133	83	64
6068051600	16,00	16	133	83	64
6068051650	16,50	18	143	93	72
6068051670	16,70	18	143	93	72
6068051690	16,90	18	143	93	72
6068051700	17,00	18	143	93	72
6068051750	17,50	18	143	93	72
6068051770	17,70	18	143	93	72
6068051800	18,00	18	143	93	72
6068051850	18,50	20	153	101	79
6068051870	18,70	20	153	101	79
6068051890	18,90	20	153	101	79
6068051900	19,00	20	153	101	79
6068051930	19,30	20	153	101	79
6068051950	19,50	20	153	101	79
6068051970	19,70	20	153	101	79
6068052000	20,00	20	153	101	79

## 60.6808

### SOLID CARBIDE DRILL 8xD INTERNAL COOLANT



-  Broca metal duro 8xD refrigeración interior
-  Foret en Carbure Monobloc 8xD Avec Refroidissement Interieur
-  Punta in metallo duro 8xD lubrificazione interna
-  Цельные твердосплавные сверла 8xD с внутренним подводом сож
-  Kati karbür matkap 8xD iç soğutma suyu
-  合金钻头8XD 内冷

m7 tolerance	600 1200 N/mm <sup>2</sup>	55 HRC	INOX	GG(G)	ALU NE	TITAN INCONEL	Drillant	UNI
 140°	8xD							
	 HA							
	 p-130							







Cod.	d1	d2	L1	L2	L3
6068080300	3,00	6	70	30	22
6068080310	3,10	6	70	30	22
6068080320	3,20	6	70	30	22
6068080330	3,30	6	70	30	22
6068080340	3,40	6	75	36	26
6068080350	3,50	6	75	36	26
6068080360	3,60	6	75	36	26
6068080370	3,70	6	75	36	26
6068080380	3,80	6	75	38	28
6068080390	3,90	6	75	38	28
6068080400	4,00	6	75	38	28
6068080410	4,10	6	75	38	28
6068080420	4,20	6	75	38	28
6068080430	4,30	6	85	45	34
6068080440	4,40	6	85	45	34
6068080450	4,50	6	85	45	34
6068080460	4,60	6	85	45	34
6068080470	4,70	6	85	45	34
6068080480	4,80	6	90	50	38
6068080490	4,90	6	90	50	38
6068080500	5,00	6	90	50	38
6068080510	5,10	6	90	50	38
6068080520	5,20	6	90	50	38
6068080530	5,30	6	90	50	38
6068080540	5,40	6	97	57	44
6068080550	5,50	6	97	57	44
6068080560	5,60	6	97	57	44
6068080570	5,70	6	97	57	44
6068080580	5,80	6	97	57	44
6068080590	5,90	6	97	57	44
6068080600	6,00	6	97	57	44
6068080610	6,10	8	106	66	51
6068080620	6,20	8	106	66	51
6068080630	6,30	8	106	66	51
6068080640	6,40	8	106	66	51
6068080650	6,50	8	106	66	51
6068080660	6,60	8	106	66	51
6068080670	6,70	8	106	66	51
6068080680	6,80	8	106	66	51
6068080690	6,90	8	116	76	59
6068080700	7,00	8	116	76	59
6068080710	7,10	8	116	76	59
6068080720	7,20	8	116	76	59
6068080730	7,30	8	116	76	59
6068080740	7,40	8	116	76	59
6068080750	7,50	8	116	76	59
6068080760	7,60	8	116	76	59
6068080770	7,70	8	116	76	59
6068080780	7,80	8	116	76	59
6068080790	7,90	8	116	76	59
6068080800	8,00	8	116	76	59
6068080810	8,10	10	131	87	68
6068080820	8,20	10	131	87	68

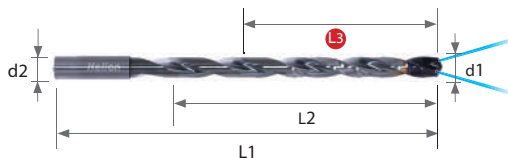
Cod.	d1	d2	L1	L2	L3
6068080830	8,30	10	131	87	68
6068080840	8,40	10	131	87	68
6068080850	8,50	10	131	87	68
6068080860	8,60	10	131	87	68
6068080870	8,70	10	131	87	68
6068080880	8,80	10	131	87	68
6068080890	8,90	10	131	87	68
6068080900	9,00	10	131	87	68
6068080910	9,10	10	139	95	74
6068080920	9,20	10	139	95	74
6068080930	9,30	10	139	95	74
6068080940	9,40	10	139	95	74
6068080950	9,50	10	139	95	74
6068080960	9,60	10	139	95	74
6068080970	9,70	10	139	95	74
6068080980	9,80	10	139	95	74
6068080990	9,90	10	139	95	74
6068081000	10,00	10	139	95	74
6068081010	10,10	12	155	106	83
6068081020	10,20	12	155	106	83
6068081030	10,30	12	155	106	83
6068081040	10,40	12	155	106	83
6068081050	10,50	12	155	106	83
6068081060	10,60	12	155	106	83
6068081070	10,70	12	155	106	83
6068081080	10,80	12	155	106	83
6068081090	10,90	12	155	106	83
6068081100	11,00	12	155	106	83
6068081110	11,10	12	163	114	89
6068081120	11,20	12	163	114	89
6068081130	11,30	12	163	114	89
6068081140	11,40	12	163	114	89
6068081150	11,50	12	163	114	89
6068081160	11,60	12	163	114	89
6068081170	11,70	12	163	114	89
6068081180	11,80	12	163	114	89
6068081190	11,90	12	163	114	89
6068081200	12,00	12	163	114	89
6068081250	12,50	14	182	133	104
6068081300	13,00	14	182	133	104
6068081350	13,50	14	182	133	104
6068081400	14,00	14	182	133	104
6068081450	14,50	16	204	152	120
6068081500	15,00	16	204	152	120
6068081550	15,50	16	204	152	120
6068081600	16,00	16	204	152	120
6068081650	16,50	18	223	171	135
6068081700	17,00	18	223	171	135
6068081750	17,50	18	223	171	135
6068081800	18,00	18	223	171	135
6068081850	18,50	20	244	190	150
6068081950	19,50	20	244	190	150
6068082000	20,00	20	244	190	150



## 60.6812

### SOLID CARBIDE DRILL 12xD INTERNAL COOLANT

-  Broca metal duro 12xD refrigeración interior
-  Foret en Carbone Monobloc 12xD Avec Refroidissement Interieur
-  Punta in metallo duro 12xD lubrificazione interna
-  Цельные твердосплавные сверла 12xD с внутренним подводом сож
-  Kati karbür matkap 12xD iç soğutma suyu
-  合金钻头12xD 内冷



<b>h7</b> tolerance	<b>600</b> <b>1200</b> N/mm <sup>2</sup>	<b>55</b> HRC	<b>INOX</b>	<b>GG(G)</b>	<b>ALU</b> <b>NE</b>	<b>TITAN</b> <b>INCONEL</b>	<b>Drillant</b>	<b>UNI</b>
	<b>12xD</b>							
								
	 p-130							







Cod.	d1	d2	L1	L2	L3
6068120300	3,00	6	90	50	38
6068120310	3,10	6	90	50	38
6068120320	3,20	6	90	50	38
6068120330	3,30	6	90	50	38
6068120340	3,40	6	90	50	38
6068120350	3,50	6	90	50	38
6068120360	3,60	6	90	50	38
6068120370	3,70	6	90	50	38
6068120380	3,80	6	102	64	49
6068120390	3,90	6	102	64	49
6068120400	4,00	6	102	64	49
6068120410	4,10	6	102	64	49
6068120420	4,20	6	102	64	49
6068120430	4,30	6	102	64	49
6068120440	4,40	6	102	64	49
6068120450	4,50	6	102	64	49
6068120460	4,60	6	102	64	49
6068120470	4,70	6	102	64	49
6068120480	4,80	6	116	78	60
6068120490	4,90	6	116	78	60
6068120500	5,00	6	116	78	60
6068120510	5,10	6	116	78	60
6068120520	5,20	6	116	78	60
6068120530	5,30	6	116	78	60
6068120540	5,40	6	116	78	60
6068120550	5,50	6	116	78	60
6068120560	5,60	6	116	78	60
6068120570	5,70	6	116	78	60
6068120580	5,80	6	116	78	60
6068120590	5,90	6	116	78	60
6068120600	6,00	6	116	78	60
6068120610	6,10	8	146	108	84
6068120620	6,20	8	146	108	84
6068120630	6,30	8	146	108	84
6068120640	6,40	8	146	108	84
6068120650	6,50	8	146	108	84
6068120660	6,60	8	146	108	84
6068120670	6,70	8	146	108	84
6068120680	6,80	8	146	108	84
6068120690	6,90	8	146	108	84
6068120700	7,00	8	146	108	84
6068120710	7,10	8	146	108	84
6068120720	7,20	8	146	108	84
6068120730	7,30	8	146	108	84
6068120740	7,40	8	146	108	84
6068120750	7,50	8	146	108	84
6068120760	7,60	8	146	108	84
6068120770	7,70	8	146	108	84
6068120780	7,80	8	146	108	84
6068120790	7,90	8	146	108	84

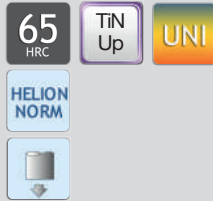
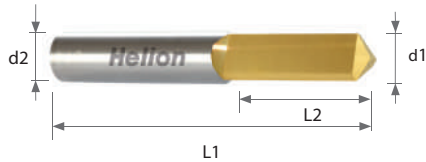
Cod.	d1	d2	L1	L2	L3
6068120800	8,00	8	146	108	84
6068120810	8,10	10	162	120	94
6068120820	8,20	10	162	120	94
6068120830	8,30	10	162	120	94
6068120840	8,40	10	162	120	94
6068120850	8,50	10	162	120	94
6068120860	8,60	10	162	120	94
6068120870	8,70	10	162	120	94
6068120880	8,80	10	162	120	94
6068120890	8,90	10	162	120	94
6068120900	9,00	10	162	120	94
6068120910	9,10	10	162	120	94
6068120920	9,20	10	162	120	94
6068120930	9,30	10	162	120	94
6068120940	9,40	10	162	120	94
6068120950	9,50	10	162	120	94
6068120960	9,60	10	162	120	94
6068120970	9,70	10	162	120	94
6068120980	9,80	10	162	120	94
6068120990	9,90	10	162	120	94
6068121000	10,00	10	162	120	94
6068121010	10,10	12	204	156	123
6068121020	10,20	12	204	156	123
6068121030	10,30	12	204	156	123
6068121050	10,50	12	204	156	123
6068121060	10,60	12	204	156	123
6068121070	10,70	12	204	156	123
6068121080	10,80	12	204	156	123
6068121090	10,90	12	204	156	123
6068121100	11,00	12	204	156	123
6068121150	11,50	12	204	156	123
6068121200	12,00	12	204	156	123
6068121230	12,30	14	230	182	144
6068121250	12,50	14	230	182	144
6068121270	12,70	14	230	182	144
6068121300	13,00	14	230	182	144
6068121350	13,50	14	230	182	144
6068121400	14,00	14	230	182	144
6068121450	14,50	16	260	208	164
6068121500	15,00	16	260	208	164
6068121550	15,50	16	260	208	164
6068121600	16,00	16	260	208	164
6068121650	16,50	18	285	234	185
6068121700	17,00	18	285	234	185
6068121750	17,50	18	285	234	185
6068121800	18,00	18	285	234	185
6068121850	18,50	20	310	258	204
6068121900	19,00	20	310	258	204
6068121950	19,50	20	310	258	204
6068122000	20,00	20	310	258	204



## 62.0010

### SOLID CARBIDE TAP DESTROYER

-  Destructor de machos en metal duro
-  Outil special pour detruire tarauds cassé dans le trou
-  Distruttore di maschi in metallo duro
-  Целные твердосплавные инструменты для удаления метчиков
-  Kati karbür tap destroyer
-  清除丝锥用合金钻头



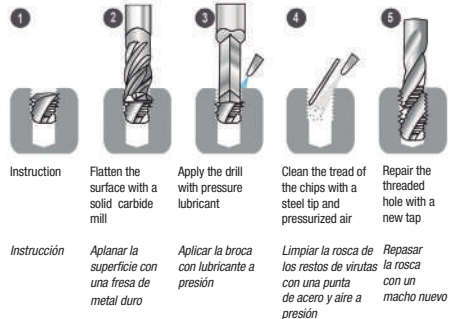
#### CUTTING CONDITIONS

Vc (m/min)
12,00

	F (mm/r)
M3	0,0400
M4	0,0400
M5	0,0600
M6	0,0600
M8	0,0800
M10	0,1000
M12	0,1100
M14	0,1200
M16	0,1400
M18	0,1500
M20	0,1700

Cod.	M	d1	d2	L1	L2
6200100250	M3	2,50	6	50	15
6200100330	M4	3,30	6	50	15
6200100420	M5	4,20	6	50	15
6200100500	M6	5,00	6	50	15
6200100680	M8	6,80	8	60	20
6200100850	M10	8,50	10	70	25
6200101020	M12	10,20	12	75	30
6200101200	M14	12,00	12	75	30
6200101400	M16	14,00	14	100	40
6200101550	M18	15,50	16	100	40
6200101750	M20	17,50	18	100	50







#### HOW TO REMOVE THE BROKEN TAP OF THE WORKPIECE





## SOLID CARBIDE SPECIAL DRILL 50-68 HRC TiAlN

# 62.6000

-  Broca metal duro especial 50-68 HRC TiAlN
-  Foret spécial en Carbure Monobloc 50-68 HRC TiAlN
-  Punta in metallo duro speciale 50-68 HRC TiAlN
-  Цельные твердосплавные сверла для 50-68 HRC TiAlN
-  Kati karbür özel matkap 50-68 HRC TiAlN
-  合金钻头 50-68HRC



### CUTTING CONDITIONS

Hardness (HRC)	Vc	F (mm/rpm)
50-57	15	0,05
58-68	10	0,04

Cod.	M	d1	d2	L1	L2	L3
6260000260	M3	2,60	6	62	20	14
6260000300	-	3,00	6	62	20	14
6260000340	M4	3,40	6	62	20	14
6260000400	-	4,00	6	66	24	17
6260000430	M5	4,30	6	66	24	17
6260000500	-	5,00	6	66	28	20
6260000510	M6	5,10	6	66	28	20
6260000560	-	5,60	6	66	28	20
6260000600	-	6,00	6	66	28	20
6260000690	M8	6,90	8	79	34	26

Cod.	M	d1	d2	L1	L2	L3
6260000710	-	7,10	8	79	41	30
6260000800	-	8,00	8	79	41	30
6260000860	M10	8,60	10	89	47	30
6260000910	-	9,10	10	89	47	36
6260001000	-	10,00	10	89	47	36
6260001040	M12	10,40	12	102	55	42
6260001060	-	10,60	12	102	55	42
6260001110	-	11,10	12	102	55	42
6260001200	-	12,00	12	102	55	42
6260001410	M16	14,10	16	115	65	50

Usar la broca 62.6000 para los taladros previos al roscado, según los diámetros aconsejados para cada rosca  
Use drill bit 62.6000 for the holes prior to threading, according to the recommended diameters for each thread



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DRILLING  
TO FUTURE



## SOLID CARBIDE DRILLREAMER H7

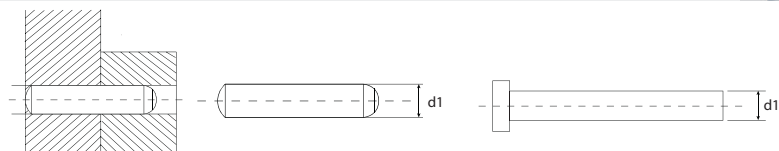
# 67.6885

-  Broca escariadora metal duro H7
-  Foret special alesoir en carbure H7
-  Punta alesatore in metallo duro H7
-  Цельные твердосплавные сверла-развертки H7
-  Kati karbúr matkap H7
-  合金钻铰一体刀 H7



DRILL  
L&NE

<b>H7</b> tolerance	600 1200 N/mm <sup>2</sup>	<b>55</b> HRC	INOX	GG(G)	TiAIN	UNI
 140°	<b>5xD</b>					
 HA						
 HELION NORM	 p-130					



Application example fixing pins DIN 6325 for  $d1 = 8$   
Can use only drill 67.6885 D: 8,00 H7

Application example ejector pin DIN 1530 for  $d1 = 8$   
Can use only drill 67.6885 D: 7,98

Cod.	d1	d2	L1	L2
6768850598	5,98	6	81	44
6768850599	5,99	6	81	44
6768850600	6,00	6	81	44
6768850601	6,01	6	81	44
6768850602	6,02	6	91	44
6768850798	7,98	8	91	53
6768850799	7,99	8	91	53
6768850800	8,00	8	91	53
6768850801	8,01	8	91	53
6768850802	8,02	8	91	53
6768850998	9,98	10	103	61
6768850999	9,99	10	103	61

Cod.	d1	d2	L1	L2
6768851000	10,00	10	103	61
6768851001	10,01	10	103	61
6768851002	10,02	10	103	61
6768851198	11,98	12	118	71
6768851199	11,99	12	118	71
6768851200	12,00	12	118	71
6768851201	12,01	12	118	71
6768851202	12,02	12	118	71
6768851400	14,00	14	124	77
6768851600	16,00	16	133	83
6768851800	18,00	18	143	93
6768852000	20,00	20	153	101









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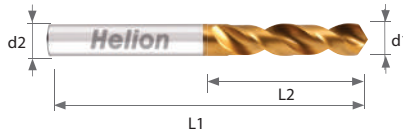





## 11.1360

### HSSCo DRILL DIN 1897 TiN U-NEWDRILL



-  Broca DIN 1897 HSSCo TiN U-NEWDRILL
-  Foret DIN 1897 HSSCo TiN U-NEWDRILL
-  Punta DIN 1897 HSSCo TiN U-NEWDRILL
-  Сверла короткой серии HSSCo DIN 1897 TiN U-Newdrill
-  Hss co matkap din 1897 teneke u-yeni matkap
-  高速钢钴钻 DIN1897 TiN



<b>h8</b> tolerance	<b>600</b> 1200 N/mm <sup>2</sup>	<b>INOX</b>	<b>GG(G)</b>	<b>ALU</b> <b>NE</b>	<b>TiN</b> U-new
	<b>3xD</b>				
	<b>HA</b>		<b>p-131</b>		

\* Minimum order quantity due to package size / Cantidad de pedido mínimo.

Cod.	d1	d2	L1	L2	MOQ*
1113600100	1,00	1,00	26	6	5
1113600110	1,10	1,10	28	7	5
1113600120	1,20	1,20	30	8	5
1113600130	1,30	1,30	30	8	5
1113600140	1,40	1,40	32	9	5
1113600150	1,50	1,50	32	9	5
1113600160	1,60	1,60	34	10	5
1113600170	1,70	1,70	34	10	5
1113600180	1,80	1,80	36	11	5
1113600190	1,90	1,90	36	11	5
1113600200	2,00	2,00	38	12	5
1113600210	2,10	2,10	38	12	5
1113600220	2,20	2,20	40	13	5
1113600230	2,30	2,30	40	13	5
1113600240	2,40	2,40	43	14	5
1113600250	2,50	2,50	43	14	5
1113600260	2,60	2,60	43	14	5
1113600270	2,70	2,70	46	16	5
1113600280	2,80	2,80	46	16	5
1113600290	2,90	2,90	46	16	5
1113600300	3,00	3,00	46	16	5
1113600310	3,10	3,10	49	18	5
1113600320	3,20	3,20	49	18	5
1113600330	3,30	3,30	49	18	5
1113600340	3,40	3,40	52	20	5
1113600350	3,50	3,50	52	20	5
1113600360	3,60	3,60	52	20	5
1113600370	3,70	3,70	52	20	5
1113600380	3,80	3,80	55	22	5
1113600390	3,90	3,90	55	22	5
1113600400	4,00	4,00	55	22	5
1113600410	4,10	4,10	55	22	5
1113600420	4,20	4,20	55	22	5
1113600430	4,30	4,30	58	24	5
1113600440	4,40	4,40	58	24	5
1113600450	4,50	4,50	58	24	5
1113600460	4,60	4,60	58	24	5
1113600470	4,70	4,70	58	24	5
1113600480	4,80	4,80	62	26	5
1113600490	4,90	4,90	62	26	5
1113600500	5,00	5,00	62	26	5
1113600510	5,10	5,10	62	26	5
1113600520	5,20	5,20	62	26	5
1113600530	5,30	5,30	62	26	5
1113600540	5,40	5,40	66	28	5
1113600550	5,50	5,50	66	28	5
1113600560	5,60	5,60	66	28	5
1113600570	5,70	5,70	66	28	5
1113600580	5,80	5,80	66	28	5
1113600590	5,90	5,90	66	28	5
1113600600	6,00	6,00	66	28	5
1113600610	6,10	6,10	70	31	5
1113600620	6,20	6,20	70	31	5

Cod.	d1	d2	L1	L2	MOQ*
1113600630	6,30	6,30	70	31	5
1113600640	6,40	6,40	70	31	5
1113600650	6,50	6,50	70	31	5
1113600660	6,60	6,60	70	31	5
1113600670	6,70	6,70	70	31	5
1113600680	6,80	6,80	74	34	5
1113600690	6,90	6,90	74	34	5
1113600700	7,00	7,00	74	34	5
1113600710	7,10	7,10	74	34	5
1113600720	7,20	7,20	74	34	5
1113600730	7,30	7,30	74	34	5
1113600740	7,40	7,40	74	34	5
1113600750	7,50	7,50	74	34	5
1113600760	7,60	7,60	79	37	5
1113600770	7,70	7,70	79	37	5
1113600780	7,80	7,80	79	37	5
1113600790	7,90	7,90	79	37	5
1113600800	8,00	8,00	79	37	2
1113600810	8,10	8,10	79	37	2
1113600820	8,20	8,20	79	37	2
1113600830	8,30	8,30	79	37	2
1113600840	8,40	8,40	79	37	2
1113600850	8,50	8,50	79	37	2
1113600860	8,60	8,60	84	40	2
1113600870	8,70	8,70	84	40	2
1113600880	8,80	8,80	84	40	2
1113600890	8,90	8,90	84	40	2
1113600900	9,00	9,00	84	40	2
1113600910	9,10	9,10	84	40	2
1113600920	9,20	9,20	84	40	2
1113600930	9,30	9,30	84	40	2
1113600940	9,40	9,40	84	40	2
1113600950	9,50	9,50	84	40	2
1113600960	9,60	9,60	89	43	2
1113600970	9,70	9,70	89	43	2
1113600980	9,80	9,80	89	43	2
1113600990	9,90	9,90	89	43	2
1113601000	10,00	10,00	89	43	2
1113601010	10,10	10,10	89	43	2
1113601020	10,20	10,20	89	43	2
1113601030	10,30	10,30	89	43	2
1113601040	10,40	10,40	89	43	2
1113601050	10,50	10,50	89	43	2
1113601100	11,00	11,00	95	47	1
1113601150	11,50	11,50	95	47	1
1113601200	12,00	12,00	102	51	1
1113601230	12,30	12,30	102	51	1
1113601250	12,50	12,50	102	51	1
1113601270	12,70	12,70	102	51	1
1113601300	13,00	13,00	102	51	1
1113601310	13,10	13,10	102	51	1
1113601350	13,50	13,50	107	54	1
1113601400	14,00	14,00	107	54	1

DRILL  
LINE









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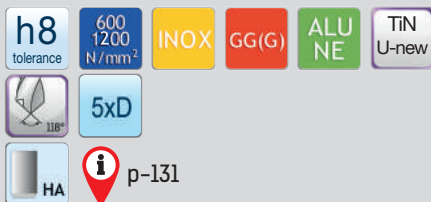
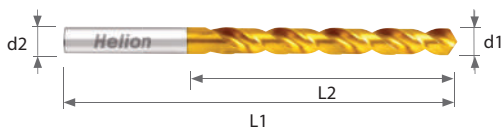


## 11.2360

### HSSCO DRILL DIN 338 TiN U-NEWDRILL



-  Broca DIN 338 HSSCo TiN U-NEWDRILL
-  Foret DIN 338 HSSCo TiN U-NEWDRILL
-  Punta DIN 338 HSSCo TiN U-NEWDRILL
-  Сверла средней серии HSSCo DIN 338 TiN U-NEWDRILL
-  HSS CO matkap DIN 338 kalay u-newdrill
-  高速钢钻头 DIN338 TiN



\* Minimum order quantity due to package size / Cantidad de pedido mínimo.

Cod.	d1	d2	L1	L2	MOQ*
1123600100	1,00	1,00	34	12	5
1123600110	1,10	1,10	36	14	5
1123600120	1,20	1,20	38	16	5
1123600130	1,30	1,30	38	16	5
1123600140	1,40	1,40	40	18	5
1123600150	1,50	1,50	40	18	5
1123600160	1,60	1,60	43	20	5
1123600170	1,70	1,70	43	20	5
1123600180	1,80	1,80	46	22	5
1123600190	1,90	1,90	46	22	5
1123600200	2,00	2,00	49	24	5
1123600210	2,10	2,10	49	24	5
1123600220	2,20	2,20	53	27	5
1123600230	2,30	2,30	53	27	5
1123600240	2,40	2,40	57	30	5
1123600250	2,50	2,50	57	30	5
1123600260	2,60	2,60	57	30	5
1123600270	2,70	2,70	61	33	5
1123600280	2,80	2,80	61	33	5
1123600290	2,90	2,90	61	33	5
1123600300	3,00	3,00	61	33	5
1123600310	3,10	3,10	65	36	5
1123600320	3,20	3,20	65	36	5
1123600330	3,30	3,30	65	36	5
1123600340	3,40	3,40	70	39	5
1123600350	3,50	3,50	70	39	5
1123600360	3,60	3,60	70	39	5
1123600370	3,70	3,70	70	39	5
1123600380	3,80	3,80	75	43	5
1123600390	3,90	3,90	75	43	5
1123600400	4,00	4,00	75	43	5
1123600410	4,10	4,10	75	43	5
1123600420	4,20	4,20	75	43	5
1123600430	4,30	4,30	80	47	5
1123600440	4,40	4,40	80	47	5
1123600450	4,50	4,50	80	47	5
1123600460	4,60	4,60	80	47	5
1123600470	4,70	4,70	80	47	5
1123600480	4,80	4,80	86	52	5
1123600490	4,90	4,90	86	52	5
1123600500	5,00	5,00	86	52	5
1123600510	5,10	5,10	86	52	2
1123600520	5,20	5,20	86	52	2
1123600530	5,30	5,30	86	52	2
1123600540	5,40	5,40	93	57	2
1123600550	5,50	5,50	93	57	2
1123600560	5,60	5,60	93	57	2
1123600570	5,70	5,70	93	57	2
1123600580	5,80	5,80	93	57	2
1123600590	5,90	5,90	93	57	2
1123600600	6,00	6,00	93	57	2
1123600610	6,10	6,10	101	63	2
1123600620	6,20	6,20	101	63	2

Cod.	d1	d2	L1	L2	MOQ*
1123600630	6,30	6,30	101	63	2
1123600640	6,40	6,40	101	63	2
1123600650	6,50	6,50	101	63	2
1123600660	6,60	6,60	101	63	2
1123600670	6,70	6,70	101	63	2
1123600680	6,80	6,80	109	69	2
1123600690	6,90	6,90	109	69	2
1123600700	7,00	7,00	109	69	2
1123600710	7,10	7,10	109	69	2
1123600720	7,20	7,20	109	69	2
1123600730	7,30	7,30	109	69	2
1123600740	7,40	7,40	109	69	2
1123600750	7,50	7,50	109	69	2
1123600760	7,60	7,60	117	75	2
1123600770	7,70	7,70	117	75	2
1123600780	7,80	7,80	117	75	2
1123600790	7,90	7,90	117	75	2
1123600800	8,00	8,00	117	75	2
1123600810	8,10	8,10	117	75	2
1123600820	8,20	8,20	117	75	2
1123600830	8,30	8,30	117	75	2
1123600840	8,40	8,40	117	75	2
1123600850	8,50	8,50	117	75	2
1123600860	8,60	8,60	125	81	2
1123600870	8,70	8,70	125	81	2
1123600880	8,80	8,80	125	81	2
1123600890	9,00	9,00	125	81	2
1123600910	9,10	9,10	125	81	2
1123600920	9,20	9,20	125	81	2
1123600930	9,30	9,30	125	81	2
1123600940	9,40	9,40	125	81	2
1123600950	9,50	9,50	125	81	2
1123600960	9,60	9,60	133	87	2
1123600970	9,70	9,70	133	87	2
1123600980	9,80	9,80	133	87	2
1123600990	9,90	9,90	133	87	2
1123601000	10,00	10,00	133	87	2
1123601010	10,10	10,10	133	87	2
1123601020	10,20	10,20	133	87	2
1123601030	10,30	10,30	133	87	2
1123601040	10,40	10,40	133	87	2
1123601050	10,50	10,50	133	87	2
1123601100	11,00	11,00	142	94	1
1123601150	11,50	11,50	142	94	1
1123601200	12,00	12,00	151	101	1
1123601230	12,30	12,30	151	101	1
1123601250	12,50	12,50	151	101	1
1123601270	12,70	12,70	151	101	1
1123601300	13,00	13,00	151	101	1
1123601310	13,10	13,10	151	101	1
1123601350	13,50	13,50	160	108	1
1123601400	14,00	14,00	160	108	1

DRILL  
LINE




HARRY HERSBACH TOOLS BV  
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## 10.2000

### HSS DRILL DIN 338 BLACK HVA



-  Broca DIN 338 HSS BLACK HVA
-  Foret DIN 338 HSS BLACK HVA
-  Punta DIN 338 HSS NERA HVA
-  Сверла средней серии HSS DIN 338 BLACK HVA
-  Hss matkap din 338 sijah hva
-  高速钢钻 DIN338 黑色HVA涂层



**h8**  
tolerance


**600  
1200**  
N/mm<sup>2</sup>

**GG(G)**


**ALU  
NE**


**Black  
HVA**

**UNI**



**5xD**




**p-131**

\* Minimum order quantity due to package size / Cantidad de pedido mínimo.

Cod.	d1	d2	L1	L2	MOQ*
1020000100	1,00	1,00	34	12	10
1020000110	1,10	1,10	36	14	10
1020000130	1,30	1,30	38	16	10
1020000140	1,40	1,40	40	18	10
1020000150	1,50	1,50	40	18	10
1020000160	1,60	1,60	43	20	10
1020000170	1,70	1,70	43	20	10
1020000180	1,80	1,80	46	22	10
1020000190	1,90	1,90	46	22	10
1020000200	2,00	2,00	49	24	10
1020000220	2,20	2,20	53	27	10
1020000230	2,30	2,30	53	27	10
1020000240	2,40	2,40	57	30	10
1020000250	2,50	2,50	57	30	10
1020000260	2,60	2,60	57	30	10
1020000270	2,70	2,70	61	33	10
1020000280	2,80	2,80	61	33	10

Cod.	d1	d2	L1	L2	MOQ*
1020000290	2,90	2,90	61	33	10
1020000300	3,00	3,00	61	33	10
1020000310	3,10	3,10	65	36	10
1020000325	3,25	3,25	65	36	10
1020000330	3,30	3,30	65	36	10
1020000340	3,40	3,40	70	39	10
1020000350	3,50	3,50	70	39	10
1020000360	3,60	3,60	70	39	10
1020000370	3,70	3,70	70	39	10
1020000380	3,80	3,80	75	43	10
1020000390	3,90	3,90	75	43	10
1020000400	4,00	4,00	75	43	10
1020000410	4,10	4,10	75	43	10
1020000420	4,20	4,20	75	43	10
1020000430	4,30	4,30	80	47	10
1020000440	4,40	4,40	80	47	10
1020000450	4,50	4,50	80	47	10



Cod.	d1	d2	L1	L2	MOQ*
1020000460	4,60	4,60	80	47	10
1020000470	4,70	4,70	80	47	10
1020000480	4,80	4,80	86	52	10
1020000490	4,90	4,90	86	52	10
1020000500	5,00	5,00	86	52	10
1020000510	5,10	5,10	86	52	10
1020000520	5,20	5,20	86	52	10
1020000530	5,30	5,30	86	52	10
1020000540	5,40	5,40	93	57	10
1020000550	5,50	5,50	93	57	10
1020000560	5,60	5,60	93	57	10
1020000570	5,70	5,70	93	57	10
1020000580	5,80	5,80	93	57	10
1020000590	5,90	5,90	93	57	10
1020000600	6,00	6,00	93	57	10
1020000610	6,10	6,10	101	63	10
1020000620	6,20	6,20	101	63	10
1020000630	6,30	6,30	101	63	10
1020000640	6,40	6,40	101	63	10
1020000650	6,50	6,50	101	63	10
1020000660	6,60	6,60	101	63	10
1020000670	6,70	6,70	101	63	10
1020000680	6,80	6,80	109	69	10
1020000690	6,90	6,90	109	69	10
1020000700	7,00	7,00	109	69	10
1020000710	7,10	7,10	109	69	10
1020000720	7,20	7,20	109	69	10
1020000730	7,30	7,30	109	69	10
1020000740	7,40	7,40	109	69	10
1020000750	7,50	7,50	109	69	10
1020000760	7,60	7,60	117	75	5
1020000770	7,70	7,70	117	75	5
1020000780	7,80	7,80	117	75	5
1020000790	7,90	7,90	117	75	5






Cod.	d1	d2	L1	L2	MOQ*
1020000800	8,00	8,00	117	75	5
1020000810	8,10	8,10	117	75	5
1020000820	8,20	8,20	117	75	5
1020000830	8,30	8,30	117	75	5
1020000840	8,40	8,40	117	75	5
1020000850	8,50	8,50	117	75	5
1020000860	8,60	8,60	125	81	5
1020000870	8,70	8,70	125	81	5
1020000880	8,80	8,80	125	81	5
1020000890	8,90	8,90	125	81	5
1020000900	9,00	9,00	125	81	5
1020000910	9,10	9,10	125	81	5
1020000920	9,20	9,20	125	81	5
1020000930	9,30	9,30	125	81	5
1020000940	9,40	9,40	125	81	5
1020000950	9,50	9,50	125	81	5
1020000960	9,60	9,60	133	87	5
1020000970	9,70	9,70	133	87	5
1020000980	9,80	9,80	133	87	5
1020000990	9,90	9,90	133	87	5
1020001000	10,00	10,00	133	87	5
1020001010	10,10	10,10	133	87	5
1020001050	10,50	10,50	133	87	5
1020001100	11,00	11,00	142	94	1
1020001150	11,50	11,50	142	94	1
1020001200	12,00	12,00	151	101	1
1020001250	12,50	12,50	151	101	1
1020001300	13,00	13,00	151	101	1
1020001350	13,50	13,50	160	108	1
1020001400	14,00	14,00	160	108	1
1020001450	14,50	14,50	169	114	1
1020001500	15,00	15,00	169	114	1
1020001550	15,50	15,50	178	120	1
1020001600	16,00	16,00	178	120	1

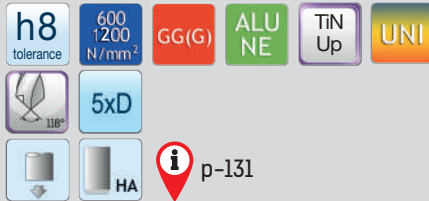
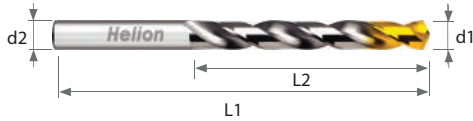
DRILL  
LINE



## 12.2105

### HSS DRILL DIN 338 TiN- Up

-  Broca DIN 338 HSS TiN-Up
-  Foret DIN 338 HSS TiN-Up
-  Punta DIN 338 HSS TiN-Up
-  Сверла средней серии HSS DIN 338 TiN-Up
-  Hss matkap din 338 tutma
-  高速钢钻 DIN338 TiN-Up涂层



\* Minimum order quantity due to package size / Cantidad de pedido mínimo.

Cod.	d1	d2	L1	L2	MOQ*
1221050100	1,00	1,00	34	12	10
1221050110	1,10	1,10	36	14	10
1221050120	1,20	1,20	38	16	10
1221050130	1,30	1,30	38	16	10
1221050140	1,40	1,40	40	18	10
1221050150	1,50	1,50	40	18	10
1221050160	1,60	1,60	43	20	10
1221050170	1,70	1,70	43	20	10
1221050180	1,80	1,80	46	22	10
1221050190	1,90	1,90	46	22	10
1221050200	2,00	2,00	49	24	10
1221050210	2,10	2,10	49	24	10
1221050220	2,20	2,20	53	27	10
1221050230	2,30	2,30	53	27	10
1221050240	2,40	2,40	57	30	10
1221050250	2,50	2,50	57	30	10
1221050260	2,60	2,60	57	30	10
1221050270	2,70	2,70	61	33	10
1221050280	2,80	2,80	61	33	10
1221050290	2,90	2,90	61	33	10
1221050300	3,00	3,00	61	33	10
1221050310	3,10	3,10	65	36	10
1221050330	3,30	3,30	65	36	10
1221050340	3,40	3,40	70	39	10
1221050350	3,50	3,50	70	39	10
1221050360	3,60	3,60	70	39	10
1221050370	3,70	3,70	70	39	10
1221050380	3,80	3,80	75	43	10
1221050390	3,90	3,90	75	43	10
1221050400	4,00	4,00	75	43	10
1221050410	4,10	4,10	75	43	10
1221050420	4,20	4,20	75	43	10
1221050430	4,30	4,30	80	47	10
1221050440	4,40	4,40	80	47	10
1221050450	4,50	4,50	80	47	10
1221050460	4,60	4,60	80	47	10
1221050470	4,70	4,70	80	47	10
1221050480	4,80	4,80	86	52	10
1221050490	4,90	4,90	86	52	10
1221050500	5,00	5,00	86	52	10
1221050510	5,10	5,10	86	52	10
1221050520	5,20	5,20	86	52	10
1221050530	5,30	5,30	86	52	10
1221050540	5,40	5,40	93	57	10
1221050550	5,50	5,50	93	57	10
1221050560	5,60	5,60	93	57	10
1221050570	5,70	5,70	93	57	10
1221050580	5,80	5,80	93	57	10
1221050590	5,90	5,90	93	57	10
1221050600	6,00	6,00	93	57	10
1221050610	6,10	6,10	101	63	10
1221050620	6,20	6,20	101	63	10

Cod.	d1	d2	L1	L2	MOQ*
1221050630	6,30	6,30	101	63	10
1221050640	6,40	6,40	101	63	10
1221050650	6,50	6,50	101	63	10
1221050660	6,60	6,60	101	63	10
1221050670	6,70	6,70	101	63	10
1221050680	6,80	6,80	109	69	10
1221050690	6,90	6,90	109	69	10
1221050700	7,00	7,00	109	69	10
1221050710	7,10	7,10	109	69	10
1221050720	7,20	7,20	109	69	10
1221050730	7,30	7,30	109	69	10
1221050740	7,40	7,40	109	69	10
1221050750	7,50	7,50	109	69	10
1221050760	7,60	7,60	117	75	10
1221050770	7,70	7,70	117	75	10
1221050780	7,80	7,80	117	75	10
1221050790	7,90	7,90	117	75	10
1221050800	8,00	8,00	117	75	5
1221050810	8,10	8,10	117	75	5
1221050820	8,20	8,20	117	75	5
1221050830	8,30	8,30	117	75	5
1221050840	8,40	8,40	117	75	5
1221050850	8,50	8,50	117	75	5
1221050860	8,60	8,60	125	81	5
1221050870	8,70	8,70	125	81	5
1221050880	8,80	8,80	125	81	5
1221050890	8,90	8,90	125	81	5
1221050900	9,00	9,00	125	81	5
1221050910	9,10	9,10	125	81	5
1221050920	9,20	9,20	125	81	5
1221050930	9,30	9,30	125	81	5
1221050940	9,40	9,40	125	81	5
1221050950	9,50	9,50	125	81	5
1221050960	9,60	9,60	133	87	5
1221050970	9,70	9,70	133	87	5
1221050980	9,80	9,80	133	87	5
1221050990	9,90	9,90	133	87	5
1221051000	10,00	10,00	133	87	5
1221051010	10,10	10,10	133	87	5
1221051020	10,20	10,20	133	87	5
1221051050	10,50	10,50	133	87	5
1221051080	10,80	10,80	142	94	1
1221051100	11,00	11,00	142	94	1
1221051120	11,20	11,20	142	94	1
1221051150	11,50	11,50	142	94	1
1221051180	11,80	11,80	142	94	1
1221051200	12,00	12,00	151	101	1
1221051220	12,20	12,20	151	101	1
1221051250	12,50	12,50	151	101	1
1221051280	12,80	12,80	151	101	1
1221051300	13,00	13,00	151	101	1

DRILL  
LINE









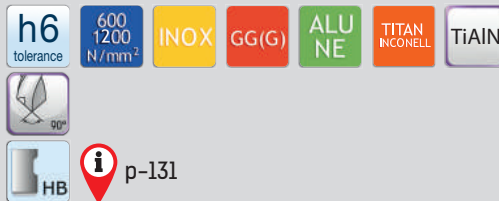
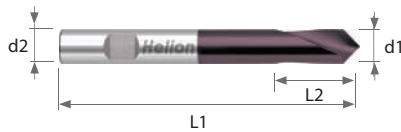
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## 10.5690

### HSSCo NC 90° SPOTTING DRILL TIALN

-  Broca puntear 90° Máquina NC TiAlN
-  Foret pour centrage 90° Machine NC TiAlN
-  Punta da centro a 90° per macchina CNC HSSCo TiAlN
-  Центровочные сверла NC 90° HSSCo TiAlN
-  HSSCO snc 90° naktalama matkap TiAlN
-  高速钢钻钻 NC 90度刃 TiAlN涂层









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\* Minimum order quantity due to package size / Cantidad de pedido mínimo.

Cod.	d1	d2	L1	L2	MOQ*
1056900300	3	3	46	12	2
1056900400	4	4	55	12	2
1056900500	5	5	62	14	2
1056900600	6	6	66	16	2
1056900800	8	8	79	21	2
1056901000	10	10	89	25	2
1056901200	12	12	102	30	1
1056901600	16	16	115	37,5	1
1056902000	20	20	131	45	1

## HSSCo NC 120° SPOTTING DRILL TIALN

# 10.5612

-  Broca puntear 120° Máquina NC TiAIN
-  Foret pour centrage 120° Machine NC TiAIN
-  Punta da centro a 120° per macchina CNC HSSCo TiAIN
-  Центровочные сверла NC 120° HSSCo TiAIN
-  HSSCO cnc 120° noktalama matkap tialn
-  高速钢钻钻 NC 120度刃 TIALN涂层



DRILL  
L31NE

\* Minimum order quantity due to package size / Cantidad de pedido mínimo.

Cod.	d1	d2	L1	L2	MOQ*
1056120300	3	3	46	12	2
1056120400	4	4	55	12	2
1056120500	5	5	62	14	2
1056120600	6	6	66	16	2
1056120800	8	8	79	21	2
1056121000	10	10	89	25	2
1056121200	12	12	102	30	1
1056121600	16	16	115	37,5	1
1056122000	20	20	131	45	1




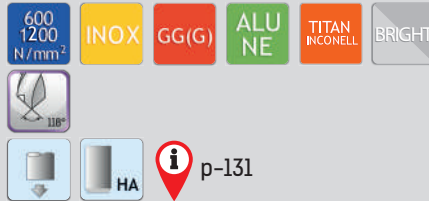
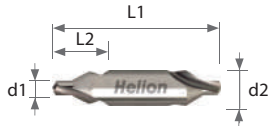
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**Helion** 127

## 10.5510

### HSS CENTER DRILL DIN 333A

-  Broca para centrar DIN 333A
-  Foret pour centrage DIN 333A
-  Punta da centro DIN 333A
-  Центровочные сверла HSS DIN 333
-  HSS merkezi matkap din 333a
-  高速钢定心钻 DIN333A



\* Minimum order quantity due to package size / Cantidad de pedido mínimo.

\*\* One tip up to (ø) 0,80 mm / Una punta hasta (ø) 0,80 mm.

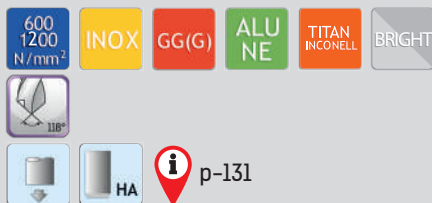
Cod.	d1	d2	L1	L2	MOQ*
** 1055100050	0,50	3,15	25,0	7,0	5
** 1055100080	0,80	3,15	25,0	7,0	5
1055100100	1,00	3,15	31,5	7,0	5
1055100125	1,25	3,15	31,5	7,0	5
1055100160	1,60	4,00	35,5	8,5	5
1055100200	2,00	5,00	40,0	10,5	5
1055100250	2,50	6,30	45,0	14,0	5

Cod.	d1	d2	L1	L2	MOQ*
1055100315	3,15	8,00	50,0	16,0	5
1055100400	4,00	10,00	56,0	19,0	5
1055100500	5,00	12,50	63,0	23,0	1
1055100630	6,30	16,00	71,0	26,0	1
1055100800	8,00	20,00	80,0	32,0	1
1055101000	10,00	25,00	100,0	40,0	1
1055101250	12,50	31,50	125,0	50,0	1

## HSS CENTER DRILL DIN 333A XTRA LONG

# 10.5514

-  Broca para centrar DIN 333A extra larga
-  Foret pour centrage DIN 333A longue
-  Punta da centro extra lunga DIN 333A
-  Центровочные сверла HSS DIN 333, длинная серия
-  HSS merkezi matkap din 333a xtra uzun
-  高速钢定心钻 DIN333A 加长



DRILL  
L3/NE

\* Minimum order quantity due to package size / Cantidad de pedido mínimo.

Cod.	d1	d2	L1	L2	MOQ*
1055140200	2,00	6	120	10,50	1
1055142500	2,50	8	120	14,00	1
1055143150	3,15	10	120	16,00	1



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**Helion** 129

# DRILL LINE

## CUTTING CONDITIONS SOLID CARBIDE

	Material	Internal coolant		Feed Option
		No	Yes	
		Vc m/min	Vc m/min	
Steel	General steels <500 N/mm <sup>2</sup> (<150 HB)	100-130	145	68
	General steels <700 N/mm <sup>2</sup> (<205 HB)	90-120	130	68
	General steels <850 N/mm <sup>2</sup> (<25 HRC)	80-110	120	66
	General steels <1000 N/mm <sup>2</sup> (<32 HRC)	70-100	110	65
	General steels <1200 N/mm <sup>2</sup> (<44 HRC)	50-80	100	65
	Tempering steel <850 N/mm <sup>2</sup> (<25 HRC)	100-130	145	66
	Tempering steel <1000 N/mm <sup>2</sup> (<32 HRC)	90-120	130	65
	Tempering steel <1200 N/mm <sup>2</sup> (<44 HRC)	80-110	120	65
	Tempering steel >1200 N/mm <sup>2</sup> (>44 HRC)	70-100	110	63
	Tempered steels 45-55 HRC	40-60	60	63
Tempered steels 55-60 HRC	20-30	25	62	
Cast Iron	Cast iron <180HB	140-160	210	69
	Malleable cast iron GTW - GTS	120-140	160	69
	Nodular cast iron GG - GGG	100-120	140	69
Non ferrous	Aluminium and AL-alloyed <6 % S	200-260	310	69
	Aluminium and AL-alloyed 6%-12% S	200-260	310	69
	Aluminium alloyed over >12% S	180-220	260	69
	Copper, long chips	105	125	67
	Brass, bronze, short chips	270	220	67
	Brass, bronze, long chips	180	325	68
INOX	INOX Stainless steel <700 N/mm <sup>2</sup> (<205 HB)	55	60	65
	INOX Stainless steel >700 N/mm <sup>2</sup> (>205 HB)	45	55	65
Exotic materials	Titanium, Ti-, Ni-, Co- alloy (Inconel, Stellite...)	25	35	64
	Ti 1 / Ti Al6V4	35	40	63



60.6003  
60.6005  
60.6803  
60.6805  
60.6808  
60.6812  
67.6885

### Feed rates

d1	Feed Option								
	61	62	63	64	65	66	67	68	69
3	0,032	0,040	0,050	0,060	0,080	0,100	0,120	0,160	0,160
4	0,040	0,050	0,065	0,080	0,100	0,122	0,160	0,200	0,200
5	0,040	0,050	0,065	0,080	0,100	0,122	0,160	0,200	0,250
6	0,050	0,065	0,085	0,100	0,130	0,170	0,240	0,270	0,300
8	0,060	0,080	0,100	0,135	0,170	0,200	0,290	0,330	0,330
10	0,080	0,100	0,125	0,160	0,200	0,240	0,330	0,400	0,400
12	0,080	0,100	0,125	0,160	0,200	0,240	0,330	0,400	0,500
16	0,100	0,130	0,160	0,220	0,250	0,330	0,400	0,500	0,600
20	0,125	0,150	0,200	0,260	0,320	0,400	0,500	0,600	0,700

### Drilling deep

#### Vc correction factor

1XD	3XD	5XD	8XD
Vc x1.2	x1	x0.8	x0.7

Conditions of work guidelines. may vary on each concrete case.

Condiciones de trabajo orientativas. pueden variar en función de cada caso concreto.



# CUTTING CONDITIONS HSS



	U-NEWDRILL		BLACK HVA		TIN-Up		CENTER DRILL		SPOT DRILL	
	Vc m/min	Feed Option	Vc m/min	Vc m/min	Feed Option	Vc m/min	Vc m/min	Feed Option		
Steel	General steels <500 N/mm <sup>2</sup> (<150 HB)	50	16	30	35	16	18	30	13	
	General steels <700 N/mm <sup>2</sup> (<205 HB)	45	16	30	35	16	18	27	13	
	General steels <850 N/mm <sup>2</sup> (<25 HRC)	40	16	23	27	15	14	24	13	
	General steels <1000 N/mm <sup>2</sup> (<32 HRC)	27	16	20	0,24	14	12	16	12	
	General steels <1200 N/mm <sup>2</sup> (<44 HRC)	22	15	19	0,22	13	11	12	12	
	Tempering steel <850 N/mm <sup>2</sup> (<25 HRC)	40	14	23	27	15	14	24	13	
	Tempering steel <1000 N/mm <sup>2</sup> (<32 HRC)	27	13	20	24	14	12	16	12	
Cast iron	Cast iron <180HB	45	16	31	36	16	18	27	14	
	Malleable cast iron GTW - GTS	30	16	20	24	16	12	18	13	
	Nodular cast iron GG - GGG	40	16	31	36	16	18	24	14	
Non ferrous	Aluminium and AL-alloyed <6 % S	80	17	77	90	17	45	48	15	
	Aluminium and AL-alloyed 6%-12% S	70	17	68	80	17	40	42	15	
	Aluminium alloyed over >12% S	70	17	60	70	17	35	42	15	
	Copper, long chips	80	15	60	70	15	35	48	13	
	Brass, bronze, short chips	70	14	28	33	14	18	42	15	
INOX	INOX Stainless steel <700 N/mm <sup>2</sup> (<205 HB)	20	14					12	12	
	INOX Stainless steel >700 N/mm <sup>2</sup> (>205 HB)	16	14					8	12	

## Feed rates

d1	Feed Option								
	11	12	13	14	15	16	17	18	19
0,50	0,004	0,006	0,008	0,010	0,010	0,012	0,014	0,016	0,020
1,00	0,006	0,008	0,012	0,015	0,016	0,017	0,020	0,024	0,025
2,00	0,020	0,025	0,030	0,035	0,045	0,057	0,070	0,100	0,100
2,50	0,025	0,032	0,040	0,050	0,070	0,080	0,100	0,120	0,120
3,00	0,032	0,040	0,050	0,060	0,080	0,100	0,120	0,160	0,160
4,00	0,040	0,050	0,065	0,080	0,100	0,122	0,160	0,200	0,200
5,00	0,040	0,050	0,065	0,080	0,100	0,122	0,160	0,200	0,200
6,00	0,050	0,065	0,085	0,100	0,130	0,170	0,240	0,270	0,270
8,00	0,060	0,080	0,100	0,135	0,170	0,200	0,290	0,330	0,330
10,00	0,080	0,100	0,125	0,160	0,200	0,240	0,330	0,400	0,400
12,00	0,080	0,100	0,125	0,160	0,200	0,240	0,330	0,400	0,400
16,00	0,100	0,130	0,160	0,220	0,250	0,330	0,400	0,500	0,500
20,00	0,125	0,150	0,200	0,260	0,320	0,400	0,500	0,650	0,650

Conditions of work guidelines. may vary on each concrete case.  
 Condiciones de trabajo orientativas. pueden variar en función de cada caso concreto.



HARRY HERSBACH TOOLS BV  
 specialist in machining tools

